

I claim:

1. A device for use in delivering genetic material for gene therapy to radiolabeled tissue within the human body comprising:

- a.) a nuclear probe having a radiation detector positioned in the distal end of a body-insertable structure, said body-insertable structure including means to limit the activation of the radiation detector to radiation emanating from a target source within a limited area located at a specific orientation to the distal end of the radiation detector,
- b.) means external of the human body to provide a quantitative measure of the amount of radiation emanating from the labeled source targeted by and impinging on the detector, and
- c.) a delivery device operable in conjunction with the nuclear probe to deliver genetic treatment material to the source of radiation impinging on the radiation detector.

2. The device of claim 1 wherein the means to limit the activation of the radiation detector is an aperture shield formed of gold.

3. The device of claim 1 further including means therein, or thereon for use in locating the position of the distal end of the probe within the human body.

4. The device of claim 3 wherein said means is at least one transmitter located at the distal end of the nuclear probe, said at least one transmitter capable of sending a readable signal to at least one receiver located outside the human body.

5. The device of claim 3 wherein the means external of the probe provides an audible or visual signal readily distinguishable by a user as quantitatively indicating the level of radiation from a target source which is incident on the radiation detector.

6. The device of claim 1 wherein the nuclear probe comprises multiple detectors, an array of detectors or a continuous film of detectors, said nuclear probe capable of providing an image of radiation distribution across the radiolabeled tissue.

7. A device for use in delivering treatment material to radiolabeled tissue within a human body comprising:

- a) a nuclear probe having a radiation detector positioned in the distal end of a body-insertable structure, said body-insertable structure including means to limit the activation of the radiation detector to radiation emanating from a target source within a limited area located at a specific orientation to the distal end of the radiation detector,
- b) means external of the human body to provide a quantitative measure of the amount of radiation emanating from the labeled source targeted by and impinging on the radiation detector, and
- c) a delivery device operable in conjunction with the nuclear probe to deliver material for treatment purposes to the vicinity of the tissue which is the source of radiation activating the radiation detector.

8. The device of claim 7 wherein the means to limit the activation of the radiation detector is an aperture shield formed of gold.

9. The device of claim 7 further including means therein, or thereon for use in locating the position of the distal end of the probe within the human body.

10. The device of claim 9 wherein said means is at least one transmitter located at the distal end of the nuclear probe, said at least one transmitter capable of sending a readable signal to at least one receiver located outside the human body.

11. The device of claim 7 wherein the means external of the nuclear probe provides an audible or visual signal readily distinguishable by a user as quantitatively indicating the level of radiation from a target source which is incident on the radiation detector.

12. The device of claim 7 wherein the nuclear probe comprises multiple detectors, an array of detectors or a continuous film of detectors, said nuclear probe capable of providing an image of radiation distribution across the radiolabeled tissue.

13. The device of claim 7 wherein the material for treatment purposes is cells, biological vectors or carriers of genetic prepared for treatment of the radiolabelled tissue.